

What is Claimed is:

1        1. In a processing system having an unprotected  
2 pipeline, an apparatus comprising:

3        a first logic gate for providing a first signal when a  
4 halt signal and a non-interruptible code signal occur  
5 together, and

6        a memory unit for storing the first signal, the first  
7 signal indicating a non-returnable interruption of the  
8 executing procedure.

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10       2. The apparatus as recited in claim 1 wherein the  
11 first signal is transferred to a read bus.

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13       3. The apparatus as recited in claim 1 wherein the  
14 memory unit is a memory-mapped register location.

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16       4. The apparatus as recited in claim 1 wherein the  
17 first logic gate is a logic AND gate.

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19       5. The apparatus as recited in claim 1 further  
20 comprising:

21       a second logic, and

22       a memory unit, the second logic gate providing a halt  
23 signal when a trigger signal is applied to a first input  
24 terminal and the contents of the memory unit are applied to  
25 a second input terminal.

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2       6.    A method for transferring a halt signal when a  
3 halt signal occurs during a non-interruptible portion of  
4 the executing code of a processor having a non-protected  
5 pipeline, the method comprising:

6       determining when a halt signal occurs during a non-  
7 interruptible portion of the executing code, and

8       storing a non-returnable bit in a memory location  
9 accessible to testing device.

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11       7.    The method as recited in claim 6 wherein, when  
12 the control signal is applied to the memory location,  
13 applying the non-returnable bit to a read bus.

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15       8.    The method as recited in claim 7 wherein the  
16 memory unit is a memory-mapped register.

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18       9.    A data processing unit comprising:

19       a processor, the processor including:

20           a non-protected pipeline,

21           the processor executing interruptible code and  
22 non-interruptible code;

23           an event signal generating unit, the event signal  
24 generating unit generating an event signal in response to a  
25 halt condition;

1           a logic unit responsive to the halt condition and  
2   a control signal for generating a halt trigger signal  
3   during a non-interruptible code portion; and  
4           a storage unit for storing a non-returnable bit  
5   in response to the trigger halt signal.

6  
7       10. The processing unit as recited in claim 9 wherein  
8   the storage unit is a memory-mapped register, the memory  
9   mapped register responsive to a control signal for  
10   transferring the non-returnable bit outside of the  
11   processor.

12  
13       11. The processing unit as recited in claim 10  
14   further including a storage unit, the storage unit storing  
15   an first signal when the processing unit is executing non-  
16   interruptible code, the first signal stored in the storage  
17   unit providing the control signal.